# **Cluster 1. Numbers and Operation**

Content Standard A: Number and Number Sense: Students will understand and demonstrate a sense of what numbers mean and how they are used. Students will be able to:

Grade 3	Grade 4	Grade 5
M1A1.3 Compare whole numbers using <, >, and = and order numbers up to 1000 and classify numbers as odd and even for numbers up to 1000.	M1A1.4 Read, compare, order, classify, and explain whole numbers up to one million.	M1A1.5 Compare, order, use, and represent simple fractions (halves, fourths, fifths, and tenths with all numerators) and decimals to hundredths.
	M1A2.4 Read, compare, order, classify, and explain simple fractions through tenths.	
	unough tentus.	M1A3.5 Use divisibility rules for 2, 5 and 10.

Content Standard B: Computation: Students will understand and demonstrate computation skills (no calculator use for straight computation and numbers used in this section should match those listed for Standard A). Students will be able to:

Grade 3	Grade 4	Grade 5
M1B1.3 Solve single and multi-step, real-life problems using addition and subtraction with whole numbers with no number greater than 1000.	M1B1.4 Solve multi-step, real-life problems using the four operations with whole numbers.	M1B1.5 Compute and model all four operations on whole numbers (1-digit divisor, 3-digit dividend) and addition and subtraction with simple fractions with common denominators and decimals to hundredths and do straight computation with these numbers and
	M1B2.4 Solve real-life problems involving addition and subtraction of simple fractions.	operations.  M1B2.5 Create, solve, and justify the solution for multi-step, real-life problems involving all four operations on whole numbers (1-digit divisor, 3-digit dividend) and addition and subtraction with simple fractions with common denominators and decimals to hundredths.
M1B3.3 Develop proficiency with the facts and algorithms of addition and subtraction on whole numbers using mental math and a variety of materials, strategies, and technologies with no number greater than 1000.	M1B3.4 Develop proficiency with the facts and algorithms of the four operations on whole numbers using mental math and a variety of materials, strategies, and technologies.	

Content Standard I. Discrete Mathematics: There is considerable overlap with other areas and other aspects are more appropriately assessed locally. No Grade Level Expectations.

2 **GLE Code**: The first character = content area; Second character = cluster number; third character = content standard letter; Fourth character = performance indicator; Fifth character after decimal point = grade level

Grade Level Expectations Developed for No Child Left Behind Purposes

Maine Department of Education - Spring 2004

### **Cluster 1. Numbers and Operation**

Content Standard A: Number and Number Sense: Students will understand and demonstrate a sense of what numbers mean and how they are used. Students will be able to:

Grade 6	Grade 7	Grade 8
M1A1.6 Compare, order, use and represent fractions, (halves, thirds, fourths, fifths, sixths, eighths and tenths with all numerators); and compare, order, use and represent decimals to thousandths and convert between decimals and percentages.	M1A1.7 Compare, order, use, and represent fractions, decimals, and percents and convert among different numeral forms (limited to terminating decimals for decimal to fraction conversion) and apply concepts of integers, absolute value and positive exponents.	M1A1.8 Use numbers in a variety of equivalent and interchangeable forms (e.g., integer, fraction, decimal, percent, exponential, and scientific notation) in problem-solving.
M1A3.6 Recognize and apply concepts of prime and composite numbers and use divisibility rules for 2, 3, 4, 5, 6, 9 and 10; and recognize and find factors and multiples of natural numbers.	M1A3.7 Apply concepts of ratios in practical or other mathematical situations.	M1A3.8 Apply concepts of ratios, proportions, percents, and number theory (e.g. primes, factors, and multiples) in practical and other mathematical situations.

Content Standard B: Computation: Students will understand and demonstrate computation skills (no calculator use for straight computation and numbers used in this section should match those listed for Standard A). Students will be able to:

Startaara 11). Staating will be as	Standard 11). Stadents will be able to:		
Grade 6	Grade 7	Grade 8	
M1B1.6 Compute and model all four operations with whole numbers, common fractions and decimals to thousandths, and do straight computation with these numbers and operations. Division limited to 2-digit whole number divisors and 3-digit dividends.	M1B1.7 Compute and model all four operations with whole numbers, fractions (including mixed numerals), decimals, and percents applying order of operations and do straight computation with these numbers and operations.	M1B1.8 Compute and model all four operations with whole numbers, fractions, decimals, sets of numbers, and percents, applying the proper order of operations.	
M1B2.6 Create, solve, and justify the solution for multi-step, real-life problems with whole numbers, common fractions and decimals to thousandths, with division limited to 2-digit whole number divisors and 3-digit dividends.	M1B2.7 Create, solve, and justify the solution for multi-step, real-life problems with whole numbers, fractions (including mixed numerals), decimals, and percents.	M1B2.8 Create, solve, and justify the solution for multi-step, real-life problems including those with ratio and proportion.	

Content Standard I. Discrete Mathematics: There is considerable overlap with other areas and other aspects are more appropriately assessed locally. No Grade Level Expectations.

Cluster 2. Shape and Size		
Content Standard e: Geometry: Students will understand and apply concepts form geometry.		
Grade 3	Grade 4	Grade 5
M2E1.3 Use properties/ attributes limited to number of sides, number of angles, to identify, describe, and distinguish between triangles and rectangles and lengths of sides to identify squares as special rectangles.	M2E1.4 Describe, model, and classify shapes and figures using applicable properties.	M2E1.5 Use properties/ attributes limited to number of sides, number of angles, and length of sides, and lines of symmetry, to classify polygons.
M2E2.3 Identify a line of symmetry for a given shape or answer questions about figures based on lines of symmetry, e.g. "which of the following shapes have one or more lines of symmetry?"	M2E2.4 Experiment with shapes and figures to make generalizations regarding congruency, symmetry, and similarity.	
	M2E3.4 Use transformations such as slides, flips, and rotations.	M2E2.5. Plot non-negative values as points on a number line.
skills. Students will be able to: Grade 3	Grade 4	Grade 5
M2F1.3 Solve and justify solutions to real-life problems involving the measurement of time, length, and temperature including using a ruler to measure length to the nearest inch and whole centimeter.  *Ruler on grade 3,4 &5 tests	M2F1.4 Solve and justify solutions to real-life problems involving the measurement of time, length, area, perimeter, weight, temperature, mass, capacity, and volume.	M2F2.5 Use ruler to measure length to the nearest quarter inch and centimeter.
M2F2.3 Select appropriate tools and units to measure length, time, and temperature	M2F2.4- Select measuring tools and units of measurement that are appropriate for what is being measured.	
		M2F3.5 Find area and perimeter of rectangles with whole numbers (includes formula use) with correct units.
		Formula sheets as appropriate in all grades.

Cluster 2. Shape and Size	Taue Level Expectation	
Content Standard e: Geometry: Students will understand and apply concepts form geometry.		
Grade 6	Grade 7	Grade 8
M2E1.6 Use properties/ attributes limited to number of sides, number of angles, and length of sides, lines of symmetry, parallel sides, perpendicular sides, and angles relative to 90° to classify polygons; and to compare and classify rectangular prisms, including cubes; and triangular prisms.	M2E1.7 Use properties/ attributes limited to number of vertices, number of edges, number of faces, shapes of faces, and types of angles to identify and distinguish among 3 dimensional shapes.	M2E1.8 Compare, classify, and draw two-dimensional shapes and three-dimensional figures.
		M2E2.8 Apply geometric properties to represent and solve real-life problems involving regular and irregular shapes.
M2E3.6 Use ordered pairs as coordinates of points in the first quadrant of a coordinate plane.	M2E3.7 Use a coordinate system to define and locate position.	M2E3.8 Use a coordinate system to define and locate position.
skills. Students will be able to: Grade 6	nent: Students will understand an  Grade 7	Grade 8
M2F2.6 Solve problems using elapsed time, thermometers, and scales.	M2F1.7 Perform conversions between pairs within the following groups: inches, feet, yards, and miles; millimeters, centimeters, meters, and kilometers; cups, pints, quarts, and gallons; milliliters and liters; ounces, pounds and tons; grams and kilograms; seconds, minutes, hours, days, weeks, months, and years.	M2F1.8 Demonstrate the structure and use of systems of measurements.
		M2F2.8 Develop and use concepts that can be measured directly, or indirectly (e.g., the concept of rate).
M2F3.6 Compute the area and perimeter of triangles and rectangles with whole numbers (formula use), and find the volume of rectangular solids using pictures of blocks or gridded diagram with correct units.	M2F3.7 Given formulas from which to choose, find areas and perimeters of 2-D shapes (includes circles), and volumes of rectangular solids with rational numbers with correct units.	M2F3.8 Demonstrate an understanding of length, area, volume, and the corresponding units, square units, and cubic units of measure.

# Cluster 3. Mathematical Decision Making Content Standard C: Data Analysis and Statistics: Students will understand and apply concepts of data analysis. Students will be able to:

Grade 3	Grade 4	Grade 5
	M3C1.4 Make generalizations and draw conclusions using various	M3C1.5 Organize data to find mode, median and range of a set of
	types of graphs, charts, and tables.	values.
M3C2.3 Read and interpret displays	M3C2.4 Read and interpret displays	
of data: line plots, tables, tally	of data.	

\*not responsible for this vocabulary

Content Standard D: Probability: Students will understand and apply concepts of probability. Students will be able to:

charts, and bar graphs, identifying least frequent, most frequent (mode\*), reading, using and

comparing values.

In the following GLEs it is expected that students use area and set models.		
Grade 3	Grade 4	Grade 5
M3D1.3 Recognize and describe the likelihood of the occurrence of an event using "likely", "not likely" or "equally likely."	M3D1.4 Estimate probability from a sample of observed outcomes and simulations.	M3D1.5 Find the probabilities of simple events and represent them as fractions (1/2, 1/3, 2/3, 1/4, 2/4, 3/4 eligible).

Content Standard J. Mathematical Reasoning: The time demand and cognitive demand of these indicators make them inappropriate for large-scale assessment. No Grade Level Expectations.

Maine Mainemancs G.	rade Level Expectations	s for Grades 5-8
Cluster 3. Mathematical Deci	sion Making	
Content Standard C: Data Anal	ysis and Statistics: Students will	understand and apply concepts
of data analysis. Students will b		
Grade 6	Grade 7	Grade 8
M3C1.6 Organize data to find modes, medians, means and ranges for sets of data and displays: Data displays include frequency distributions, tables, line plots, or bar graphs (e.g., given a bar graph, determine the mode, median, range and mean).	M3C1.7 Organize data and analyze patterns and trends in data using modes, medians, means and ranges for sets of data (emphasis on comparing sets begins). Data displays include lists, tables, frequency distributions, line plots, bar graphs or stem and leaf plots.	M3C1.8 Organize and analyze data using mean, median, mode, and range.
Students will be able to:	y: Students will understand and a	pply concepts of probability.
In the following GLEs it is expected the Grade 6	Grade 7	Grade 8
M3D1.6 Find the probabilities of simple events (sample space number and number of desired outcomes given) and represent them as fractions (simplest form not needed).	M3D1.7 Find the probability of simple events and express the probability as a fraction or a percentage (percentages limited to multiples of 10% and 25%).	M3D1.8 Find the probability of simple events and make predictions by applying the theories of probability.
M3D4.6 Find the number of arrangements of 3 factors with no more than 4 choices per factor (e.g.,	M3D4.7 Apply the idea of permutation in a problem situation with 6 elements or fewer (e.g., how	M3D4.8 Find all possible combinations and arrangements involving a limited number of

Content Standard J. Mathematical Reasoning: The time demand and cognitive demand of these indicators make them inappropriate for large-scale assessment. No Grade Level Expectations.

word "math" be arranged?).

many ways can the four letters in the

variables.

tree diagram, organized list,

pictures).

Maine Mainemanes Grade Level Expectations for Grades 3-6		
Cluster 4. Patterns		
Content Standard G: Patterns, Relations, and Functions: Students will understand that		
mathematics is the science of patterns, relationships, and functions. Students will be able to:		
Grade 3	Grade 4	Grade 5
M4G1.3 Determine the next term	M4G1.4. Use the patterns of	M4G1.5 Translate real-life
or missing terms in patterns with numbers or shapes.	numbers, geometry, and a variety of graphs to solve a problem.	situations into addition, subtraction, multiplication, or division sentences.
M4G2.3 Translate real-life	M4G2.4 Use variables and open	
situations into addition and	sentences to express relationships.	
subtraction sentences.		
		M4G3.5 Solve problems involving linear patterns in tables, graphs, words or rules using whole numbers.
Content Standard H: Algebra C	Concepts: Students will understar	nd and apply algebraic
concepts. Students will be able		11 7 8
Grade 3	Grade 4	Grade 5
	M4H1.4 Develop and evaluate simple formulas in problem-solving contexts.	
M4H2.3 Solve for a missing number or find the replacement for a symbol in addition and subtraction sentences using whole numbers.	M4H2.4 Find replacements for variables that make simple number sentences true.	
		M4H6.5 Solve one-step equations using addition, subtraction, or multiplication with a variable. Values are limited to whole

	Manie Mathematics Grade Level Expectations for Grades 5-6		
Cluster 4. Patterns			
Content Standard G: Patterns, Relations, and Functions: Students will understand that			
mathematics is the science of pa	mathematics is the science of patterns, relationships, and functions. Students will be able to:		
Grade 6	Grade 7	Grade 8	
M4G1.6 Translate real-life situations into addition, subtraction, multiplication, and division sentences with whole numbers (mix of operations included).	M4G1.7 Translate real-life linear situations into equations (limited to one step).	M4G1.8 Describe and represent relationships with tables, graphs, and equations.	
M4G3.6 Solve problems involving linear patterns in the form of tables, graphs, words, rules and equations using whole numbers, decimals to hundredths and simple fractions.	M4G3.7 Solve problems involving linear patterns in the form of tables, graphs, words, rules or equations using rational numbers (including signed values).	M4G3.8 Use patterns and multiple representations to solve problems.	
Students will be able to:	oncepts: Students will understand		
Grade 6	Grade 7	Grade 8	
		M4H3.8 Analyze tables and graphs to identify properties and relationships in a practical context.	
M4H6.6 Solve one-step equations using whole numbers with all four operations.	M4H6.7 Solve two-step equations using integers and positive rational numbers.	M4H6.8 Find solutions for unknown quantities in linear equations and in simple equations and inequalities.	

Cluster 1: Reading and Viewing		
Content Standard A: Process of Reading: Students will use the skills and strategies of the reading		
process to comprehend, interpret	t, evaluate, and appreciate what the	hey have read. Students will:
Grade 3	Grade 4	Grade 5
R1A1.3 Determine the meaning of unknown words through these strategies: by reading words in context and by using knowledge of word structures (prefixes, suffixes, base words, or multi-syllabic structures).	R1A1.4 Determine the meaning of unknown words by using a dictionary, glossary, or other reference sources.  [ Maine GLE Reading Panel Recommendation: Other reference sources may include prior knowledge of context clues, word structures, etc. for grade 4.]]	R1A8.5 Read for a variety of purposes (e.g., to gain knowledge, to aid in making decisions, to receive instructions, to follow an argument, to enjoy). [Text complexity appropriate for grade 5.]
		R1A7.5 Summarize by selecting and paraphrasing important and representative texts/passages, including the sequence of major events when appropriate for the genre. [Text complexity appropriate for grade 5.]

	Level Expectations for	Oraucs 5-0			
Cluster 1: Reading and Viewing					
Content Standard A: Process of Reading: Students will use the skills and strategies of the reading					
process to comprehend, interpret, evaluate, and appreciate what they have read. Students will:					
Grade 6	Grade 6 Grade 7 Grade 8				
R1A8.6	R1A8.7	R1A8.8			
Read for a variety of purposes (e.g.,	Read for a variety of purposes (e.g.,	Read for a variety of purposes (e.g.,			
to gain knowledge, to aid in making	to gain knowledge, to aid in making	to gain knowledge, to aid in making			
decisions, to receive instructions, to	decisions, to receive instructions, to	decisions, to receive instructions, to			
follow an argument, to enjoy). [Text	follow an argument, to enjoy). [Text	follow an argument, to enjoy).			
complexity appropriate for grade 6.]	complexity appropriate for grade 7.]				
		[Maine GLE Reading Panel assumes			
		the text complexity is appropriate for grade 8.]			
		grade 0.j			
R1A7.6 R1A7.7 R1A7.8					
Summarize whole text by selecting	Summarize whole text by selecting	Summarize whole texts by selecting			
and paraphrasing important and	and paraphrasing important and	and summarizing important and			
representative texts/passages,	representative texts/passages,	representative passages.			
including the sequence of major events when appropriate for the	including the sequence of major events when appropriate for the	[Maine GLE Reading Panel assumes the text complexity is appropriate for			
genre. [Text complexity appropriate	genre.	grade 8.]			
for grade 6.]	[Text complexity appropriate for				
	grade 7.]				
	l				

### **Cluster 1: Reading and Viewing**

Content Standard B: Literature and Culture: Students will use reading, listening, and viewing

#### strategies to experience, understand, and appreciate literature and culture. Students will: Grade 3 Grade 4 Grade 5 R1B10.3 R1B10.4 R1B8.5 Apply effective strategies for Apply effective strategies to the Apply effective strategies for identifying and describing character, reading and interpretation of fiction analyzing and describing characters' setting, and plot; analyzing and (e.g., fantasies, fables, myths, interactions-citing thoughts, words, describing the physical and mysteries, realistic and historical or actions, that reveal characters' personality traits of main characters; fiction, adventures, and humorous personalities; making basic identifying the author's basic tales) that is appropriately complex inferences about problem, conflict, message; and identifying the literary and solution; determining the in terms of character, plot, theme, devices of dialogue and description and dialogue and appropriately author's message or theme; and to the reading and interpretation of sophisticated in style, point of view, identifying the literary devices of fiction. [Text complexity appropriate and use of literary devices. imagery, simple metaphors, and for grade 3.] idioms to the reading and [ Maine GLE Reading Panel interpretation of fiction. [Text Recommendation: Appropriate complexity appropriate for grade 5]. literary devices may include similes, rhyme, and alliteration for grade 4.] R1B11.3 R1B11.4 R1B9.5 Apply effective strategies for Apply effective strategies to the Apply effective strategies for reading and use of nonfiction (e.g., synthesizing information within and recognizing appropriate generalizations about text; drawing reference sources, articles, histories, across text(s); making inferences conclusions or forming biographies, autobiographies, about text, including the author's judgments/opinions about central diaries, and letters) using texts with message or purpose (e.g., to inform, ideas that are relevant to the reading an appropriate complexity of content to entertain, to explain, or to and use of narrative nonfiction. and sophistication of style. persuade); and supporting [Text length and complexity opinions/judgments and assertions about the text that are relevant to the appropriate for grade 3.] reading and use of narrative nonfiction texts. [Text length and complexity appropriate for grade 5.]

# **Cluster 1: Reading and Viewing**

Content Standard B. Literature and Culture: Students will use reading listening and viewing

Content Standard B: Literature and Culture: Students will use reading, listening, and viewing					
strategies to experience, understand, and appreciate literature and culture. Students will:					
Grade 6	Grade 7	Grade 8			
R1B8.6	R1B8.7	R1B8.8			
Apply effective strategies for analyzing and describing characters' traits, interactions, and changes over time; making basic inferences about problem, conflict, or solution; of identifying the relationships among elements within the text (plot, character, setting, and types of conflict); determining author's message and point of view-stated or implied; and identifying the literary devices of flashback, foreshadowing, and repetition to the reading and interpretation of fiction. [Text complexity appropriate for grade 6.]	Apply effective strategies for analyzing and describing characters' interactions and motivations- citing thoughts, words, or actions that reveal characters' personalities; making inferences about cause/effect, internal/external conflicts and resolutions; analyzing the relationship among elements within the text- person vs. self, person vs. person, person vs. nature/society/fate; explaining how the author's message or theme is supported within the text; analyzing the author's point of view; and identifying the literary devices of metaphors, personification, and onomatopoeia to the reading and interpretation of fiction. [Text complexity appropriate for grade 7.]	Apply effective strategies to the reading and interpretation of fiction (e.g., science fiction, myths, mysteries, realistic and historical fiction, poems, adventure stories, and humorous tales), using texts that are appropriately sophisticated in style, point of view, and use of literary devices.  [Maine GLE Reading Panel assumes the text complexity is appropriate for grade 8.]			
R1B9.6 Apply effective strategies for synthesizing information within and across text (s); making inferences about text, including author's message or purpose (e.g., to inform, to explain, to entertain, to persuade); and forming and supporting opinion/judgments and assertions about the text that are relevant to the reading and use of narrative nonfiction texts. [Text length and complexity appropriate for grade 6.]	R1B9.7 Apply effective strategies for synthesizing and evaluating information within and across texts; making inferences about text, including author's message or purpose (e.g., to inform, to explain, to entertain, or to persuade); and forming and supporting warranted* opinions/judgments and assertions about the text that are relevant to the reading and use of narrative nonfiction. [Text length and complexity appropriate for grade 7.]	R1B9.8 Apply effective strategies to the reading and use of moderately long nonfiction texts (e.g., references sources, articles, editorials, histories, biographies, autobiographies, diaries, letters, and commentaries), which have an appropriate complexity of content and sophistication of style.  [Maine GLE Reading Panel assumes the text complexity is appropriate for grade 8.]			

\* defensible, viable

Cluster 1: Reading and Viewing				
Content Standard D: Informational Texts: Students will apply reading, listening, and viewing				
strategies to informational texts	across all areas of curriculum. St	udents will:		
Grade 3	Grade 4	Grade 5		
R1D2.3	R1D2.4	R1D4.5		
Identify various informational parts	Use various informational parts of a	Identify the informational text		
of a text (e.g. table of contents,	text (e.g., index, table of contents,	structures of description, sequence,		
glossary, bolded or italicized text,	glossary, appendices).	and question and answer. [Text		
headings, graphic organizers, charts		complexity appropriate for grade 5.]		
and graphs, and illustrations). [Text				
complexity appropriate for grade 3.]	201	2124		
R1D4.3	R1D4.4	R1D5.5		
Organize information to show	Summarize informational texts (e.g.,	Organize information to show		
understanding (e.g., represent key	identify the main idea or concept	understanding (e.g., representing key		
points within text through charting,	and the supporting details).	points within text through		
mapping, etc.).		paraphrasing, summarizing, and/or		
		answering questions). [Text complexity appropriate for grade 5.]		
		complexity appropriate for grade 3.]		

Maine Reading Grade Level Expectations for Grades 5-6					
Cluster 1: Reading and Viewing					
Content Standard D: Informational Texts: Students will apply reading, listening, and viewing					
strategies to informational texts	strategies to informational texts across all areas of curriculum. Students will:				
Grade 6	Grade 7	Grade 8			
R1D4.6	R1D4.7	R1D4.8			
Identify the informational text	Identify the informational texts	Identify different ways in which			
structure of compare and contrast.	structures of problem/solution and	informational texts are organized.			
[Text complexity appropriate for	cause/effect. [Text complexity	[Maine GLE Reading Panel assumes			
grade 6.]	appropriate for grade 7.]	the text complexity is appropriate for			
		grade 8.]			
R1D5.6	R1D5.7	R1D5.8			
Make inferences about text,	Make inferences about text,	Produce and support generalizations			
including the author's purpose	including the author's purpose	acquired from informational text.			
and/or message, by forming and	and/or message, by forming and	1			
supporting opinions/judgments and	supporting warranted*				
assertions about the text that are	opinions/judgments and assertions				
relevant. [Text complexity	about the text that are relevant. [Text				
appropriate for grade 6.]	complexity appropriate for grade 7.]				
	*defensible, viable				

Cluster 1 – Numbers	Cluster 2 – Shape and	Cluster 3 –	Cluster 4 - Patterns
and Operations	Size	Mathematical	
•		Decision Making	
A. Numbers and Number	E. Geometry	C. Data Analysis and	G. Patterns, Relations,
Sense	M2E1.4 Describe, model,	Statistics	and Functions
M1A1.4 Read, compare,	and classify shapes and	M3C1.4 Make	M4G1.4. Use the patterns
order, classify, and explain	figures using applicable	generalizations and draw	of numbers, geometry, and
whole numbers up to one	properties.	conclusions using various	a variety of graphs to solve
million.		types of graphs, charts, and	a problem.
	M2E2.4 Experiment with	tables.	
M1A2.4 Read, compare,	shapes and figures to make		M4G2.4 Use variables and
order, classify, and explain	generalizations regarding	M3C2.4 Read and interpret	open sentences to express
simple fractions through	congruency, symmetry, and	displays of data.	relationships.
tenths.	similarity.		
		D. Probability	H. Algebra Concepts
B. Computation	M2E3.4 Use	M3D1.4 Estimate	M4H1.4 Develop and
M1B1.4 Solve multi-step,	transformations such as	probability from a sample of	evaluate simple formulas in
real-life problems using the	slides, flips, and rotations.	observed outcomes and	problem-solving contexts.
four operations with whole		simulations.	
numbers.	F. Measurement		M4H2.4 Find replacements
	M2F1.4 Solve and justify		for variables that make
M1B2.4 Solve real-life	solutions to real-life		simple number sentences
problems involving addition	problems involving the		true.
and subtraction of simple	measurement of time,		
fractions.	length, area, perimeter,		
	weight, temperature, mass,		
M1B3.4 Develop	capacity, and volume.		
proficiency with the facts			
and algorithms of the four	M2F2.4 Select measuring		
operations on whole	tools and units of		
numbers using mental math	measurement that are		
and a variety of materials,	appropriate for what is		
strategies, and technologies.	being measured.		

Cluster 1 – Numbers	Cluster 2 – Shape and	Cluster 3 –	Cluster 4 - Patterns
and Operations	Size	Mathematical	
with o per witous	5124	Decision Making	
A. Numbers and Number	E. Geometry	C. Data Analysis and	G. Patterns, Relations,
Sense	M2E1.5 Use properties/	Statistics	and Functions
M1A1.5 Compare, order,	attributes limited to number	M3C1.5 Organize data to	M4G1.5 Translate real-life
use, and represent simple	of sides, number of angles,	find mode, median and	situations into addition,
fractions (halves, fourths,	and length of sides, and	range of a set of values.	subtraction, multiplication,
fifths, and tenths with all	lines of symmetry, to		or division sentences.
numerators) and decimals to	classify polygons.	D. Probability	
hundredths.		M3D1.5 Find the	M4G3.5 Solve problems
	M2E3.5. Plot non-negative	probabilities of simple	involving linear patterns in
M1A3.5 Use divisibility	values as points on a	events and represent them as	tables, graphs, words or
rules for 2, 5 and 10.	number line.	fractions (1/2, 1/3, 2/3, 1/4,	rules using whole numbers.
		2/4, 3/4 eligible).	
B. Computation	F. Measurement		H. Algebra Concepts
M1B1.5 Compute and	M2F2.5 Use ruler to		M4H6.5 Solve one-step
model all four operations on	measure length to the		equations using addition,
whole numbers (1-digit	nearest quarter inch and		subtraction, or
divisor, 3-digit dividend)	centimeter.		multiplication with a
and addition and subtraction	MOE2 5 E' 1 1		variable. Values are limited
with simple fractions with	M2F3.5 Find area and		to whole numbers.
common denominators and decimals to hundredths and	perimeter of rectangles with whole numbers (includes		
	`		
do straight computation with these numbers and	formula use) with correct units.		
operations.	units.		
operations.	Formula sheets as		
M1B2.5 Create, solve, and	appropriate in all grades.		
justify the solution for	appropriate in all grades.		
multi-step, real-life			
problems involving all four			
operations on whole			
numbers (1-digit divisor, 3-			
digit dividend) and addition			
and subtraction with simple			
fractions with common			
denominators and decimals			
to hundredths.			

Cluster 1 – Numbers	Cluster 2 – Shape and	Cluster 3 –	Cluster 4 - Patterns
and Operations	Size	Mathematical	
	Size		
A. Numbers and Number Sense M1A1.6 Compare, order, use and represent fractions, (halves, thirds, fourths, fifths, sixths, eighths and tenths with all numerators); and compare, order, use and represent decimals to thousandths and convert between decimals and percentages.  M1A3.6 Recognize and apply concepts of prime and composite numbers and use divisibility rules for 2, 3, 4, 5, 6, 9 and 10; and recognize and find factors and multiples of natural numbers.  B. Computation M1B1.6 Compute and model all four operations with whole numbers, common fractions and decimals to thousandths, and do straight computation with these numbers and operations. Division limited to 2-digit whole number divisors and 3-digit dividends.	E. Geometry M2E1.6 Use properties/ attributes limited to number of sides, number of angles, and length of sides, lines of symmetry, parallel sides, perpendicular sides, and angles relative to 90° to classify polygons; and to compare and classify rectangular prisms, including cubes; and triangular prisms.  M2E3.6 Use ordered pairs as coordinates of points in the first quadrant of a coordinate plane.  F. Measurement M2F2.6 Solve problems using elapsed time, thermometers, and scales.  M2F3.6 Compute the area and perimeter of triangles and rectangles with whole numbers (formula use), and find the volume of rectangular solids using pictures of blocks or gridded diagram with correct units.	C. Data Analysis and Statistics M3C1.6 Organize data to find modes, medians, means and ranges for sets of data and displays: Data displays include frequency distributions, tables, line plots, or bar graphs (e.g., given a bar graph, determine the mode, median, range and mean).  D. Probability M3D1.6 Find the probabilities of simple events (sample space number and number of desired outcomes given) and represent them as fractions (simplest form not needed).  M3D4.6 Find the number of arrangements of 3 factors with no more than 4 choices per factor (e.g., tree diagram, organized list, pictures).	G. Patterns, Relations, and Functions M4G1.6 Translate real-life situations into addition, subtraction, multiplication, and division sentences with whole numbers (mix of operations included).  M4G3.6 Solve problems involving linear patterns in the form of tables, graphs, words, rules and equations using whole numbers, decimals to hundredths and simple fractions.  H. Algebra Concepts M4H6.6 Solve one-step equations using whole numbers with all four operations.
M1B2.6 Create, solve, and justify the solution for multi-step, real-life problems with whole numbers, common fractions and decimals to thousandths, with division limited to 2-digit whole number divisors and 3-digit dividends.		y time load for greating gr	

Cluster 1 – Numbers	Cluster 2 – Shape and	Cluster 3 –	Cluster 4 - Patterns
and Operations	Size	Mathematical	
_		Decision Making	
A. Numbers and Number	E. Geometry	C. Data Analysis and	G. Patterns, Relations,
Sense	M2E1.7 Use properties/	Statistics	and Functions
M1A1.7 Compare, order,	attributes limited to number	M3C1.7 Organize data and	M4G1.7 Translate real-life
use, and represent fractions,	of vertices, number of	analyze patterns and trends	linear situations into
decimals, and percents and	edges, number of faces,	in data using modes,	equations (limited to one
convert among different	shapes of faces, and types	medians, means and ranges	step).
numeral forms (limited to	of angles to identify and	for sets of data (emphasis on	
terminating decimals for	distinguish among 3	comparing sets begins).	M4G3.7 Solve problems
decimal to fraction	dimensional shapes.	Data displays include lists,	involving linear patterns in
conversion) and apply		tables, frequency	the form of tables, graphs,
concepts of integers,	M2E3.7 Use a coordinate	distributions, line plots, bar	words, rules or equations
absolute value and positive	system to define and locate	graphs or stem and leaf	using rational numbers
exponents.	position.	plots.	(including signed values).
M1A3.7 Apply concepts of	F. Measurement	D. Probability	H. Algebra Concepts
ratios in practical or other	M2F1.7 Perform	M3D1.7 Find the	M4H6.7 Solve two-step
mathematical situations.	conversions between pairs	probability of simple events	equations using integers
	within the following groups:	and express the probability	and positive rational
B. Computation	inches, feet, yards, and	as a fraction or a percentage	numbers.
M1B1.7 Compute and	miles; millimeters,	(percentages limited to	
model all four operations	centimeters, meters, and	multiples of 10% and 25%).	
with whole numbers,	kilometers; cups, pints,	_	
fractions (including mixed	quarts, and gallons;	M3D4.7 Apply the idea of	
numerals), decimals, and	milliliters and liters; ounces,	permutation in a problem	
percents applying order of	pounds and tons; grams and	situation with 6 elements or	
operations and do straight	kilograms; seconds,	fewer (e.g., how many ways	
computation with these	minutes, hours, days,	can the four letters in the	
numbers and operations.	weeks, months, and years.	word "math" be arranged?).	
M1B2.7 Create, solve, and	M2F3.7 Given formulas		
justify the solution for	from which to choose, find		
multi-step, real-life	areas and perimeters of 2-D		
problems with whole	shapes (includes circles),		
numbers, fractions	and volumes of rectangular		
(including mixed numerals),	solids with rational numbers		
decimals, and percents.	with correct units.		
Content Standard K. Cor	nmunication. Due to heavy	v time load for creating gra	anhs and convincing

Cluster 1 – Numbers	Cluster 2 – Shape and	Cluster 3 –	Cluster 4 - Patterns
and Operations	Size	Mathematical	
and operations	Size	Decision Making	
A. Numbers and Number	E. Geometry	C. Data Analysis and	G. Patterns, Relations,
Sense	M2E1.8 Compare, classify,	Statistics	and Functions
M1A1.8 Use numbers in a	and draw two-dimensional	M3C1.8 Organize and	M4G1.8 Describe and
variety of equivalent and	shapes and three-	analyze data using mean,	represent relationships with
interchangeable forms (e.g., integer, fraction, decimal,	dimensional figures.	median, mode, and range.	tables, graphs, and equations.
percent, exponential, and	M2E2.8 Apply geometric	D. Probability	equations.
scientific notation) in	properties to represent and	M3D1.8 Find the	M4G3.8 Use patterns and
problem-solving.	solve real-life problems	probability of simple events	multiple representations to
	involving regular and	and make predictions by	solve problems.
M1A3.8 Apply concepts of	irregular shapes.	applying the theories of	
ratios, proportions, percents,		probability.	H. Algebra Concepts
and number theory (e.g.	M2E3.8 Use a coordinate	MODA OF: 1 II III	M4H3.8 Analyze tables and
primes, factors, and	system to define and locate	M3D4.8 Find all possible combinations and	graphs to identify properties
multiples) in practical and other mathematical	position.	arrangements involving a	and relationships in a practical context.
situations.	F. Measurement	limited number of variables.	practical context.
Situations.	M2F1.8 Demonstrate the	inimica number of variables.	M4H6.8 Find solutions for
B. Computation	structure and use of systems		unknown quantities in
M1B1.8 Compute and	of measurements.		linear equations and in
model all four operations			simple equations and
with whole numbers,	M2F2.8 Develop and use		inequalities.
fractions, decimals, sets of	concepts that can be		
numbers, and percents,	measured directly, or		
applying the proper order of	indirectly (e.g., the concept		
operations.	of rate).		
M1B2.8 Create, solve, and	M2F3.8 Demonstrate an		
justify the solution for	understanding of length,		
multi-step, real-life	area, volume, and the		
problems including those	corresponding units, square		
with ratio and proportion.	units, and cubic units of		
	measure.		

### **Cluster 1: Reading and Viewing**

### **Process of Reading**

R1A1.3 Determine the meaning of unknown words through these strategies: by reading words in context and by using knowledge of word structures (prefixes, suffixes, base words, or multi-syllabic structures).

#### **B.** Literature and Culture

#### R1B10.3

Apply effective strategies for identifying and describing character, setting, and plot; analyzing and describing the physical and personality traits of main characters; identifying the author's basic message; and identifying the literary devices of dialogue and description to the reading and interpretation of fiction. [Text complexity appropriate for grade 3.]

### R1B11.3

Apply effective strategies for recognizing appropriate generalizations about text; drawing conclusions or forming judgments/opinions about central ideas that are relevant to the reading and use of narrative nonfiction. [Text length and complexity appropriate for grade 3.]

#### **D. Informational Texts**

#### R1D2.3

Identify various informational parts of a text (e.g. table of contents, glossary, bolded or italicized text, headings, graphic organizers, charts and graphs, and illustrations). [Text complexity appropriate for grade 3.]

#### R1D4.3

Organize information to show understanding (e.g., represent key points within text through charting, mapping, etc.).

### **Cluster 1: Reading and Viewing**

### A. Process of Reading

R1A1.4

Determine the meaning of unknown words by using a dictionary, glossary, or other reference sources.

[Maine GLE Reading Panel Recommendation: Other reference sources may include prior knowledge of context clues, word structures, etc. for grade 4.]]

### **B.** Literature and Culture

R1B10.4

Apply effective strategies to the reading and interpretation of fiction (e.g., fantasies, fables, myths, mysteries, realistic and historical fiction, adventures, and humorous tales) that is appropriately complex in terms of character, plot, theme, and dialogue and appropriately sophisticated in style, point of view, and use of literary devices.

[ Maine GLE Reading Panel Recommendation: Appropriate literary devices may include similes, rhyme, and alliteration for grade 4.]

#### R1B11.4

Apply effective strategies to the reading and use of nonfiction (e.g., reference sources, articles, histories, biographies, autobiographies, diaries, and letters) using texts with an appropriate complexity of content and sophistication of style.

### **D.** Informational Texts

R1D2.4

Use various informational parts of a text (e.g., index, table of contents, glossary, appendices).

#### R1D4.4

Summarize informational texts (e.g., identify the main idea or concept and the supporting details).

### **Cluster 1: Reading and Viewing**

### A. Process of Reading

#### R1A7.5

Summarize by selecting and paraphrasing important and representative texts/passages, including the sequence of major events when appropriate for the genre. [Text complexity appropriate for grade 5.]

#### R1A85

Read for a variety of purposes (e.g., to gain knowledge, to aid in making decisions, to receive instructions, to follow an argument, to enjoy). [Text complexity appropriate for grade 5.]

#### **B.** Literature and Culture

#### R1B8.5

Apply effective strategies for analyzing and describing characters' interactions-citing thoughts, words, or actions, that reveal characters' personalities; making basic inferences about problem, conflict, and solution; determining the author's message or theme; and identifying the literary devices of imagery, simple metaphors, and idioms to the reading and interpretation of fiction. [Text complexity appropriate for grade 5].

#### R1B9.5

Apply effective strategies for synthesizing information within and across text(s); making inferences about text, including the author's message or purpose (e.g., to inform, to entertain, to explain, or to persuade); and supporting opinions/judgments and assertions about the text that are relevant to the reading and use of narrative nonfiction texts. [Text length and complexity appropriate for grade 5.]

### **D.** Informational Texts

#### R1D4.5

Identify the informational text structures of description, sequence, and question and answer. [Text complexity appropriate for grade 5.]

#### R1D5.5

Organize information to show understanding (e.g., representing key points within text through paraphrasing, summarizing, and/or answering questions). [Text complexity appropriate for grade 5.]

### **Cluster 1: Reading and Viewing**

## A. Process of Reading

R1A7.6

Summarize whole text by selecting and paraphrasing important and representative texts/passages, including the sequence of major events when appropriate for the genre. [Text complexity appropriate for grade 6.]

#### R1A86

Read for a variety of purposes (e.g., to gain knowledge, to aid in making decisions, to receive instructions, to follow an argument, to enjoy). [Text complexity appropriate for grade 6.]

#### **B.** Literature and Culture

R1B8.6

Apply effective strategies for analyzing and describing characters' traits, interactions, and changes over time; making basic inferences about problem, conflict, or solution; of identifying the relationships among elements within the text (plot, character, setting, and types of conflict); determining author's message and point of view-stated or implied; and identifying the literary devices of flashback, foreshadowing, and repetition to the reading and interpretation of fiction. [Text complexity appropriate for grade 6.]

#### R1B9.6

Apply effective strategies for synthesizing information within and across text (s); making inferences about text, including author's message or purpose (e.g., to inform, to explain, to entertain, to persuade); and forming and supporting opinion/judgments and assertions about the text that are relevant to the reading and use of narrative nonfiction texts. [Text length and complexity appropriate for grade 6.]

### **D.** Informational Texts

R1D4.6

Identify the informational text structure of compare and contrast. [Text complexity appropriate for grade 6.]

#### R1D5.6

Make inferences about text, including the author's purpose and/or message, by forming and supporting opinions/judgments and assertions about the text that are relevant. [Text complexity appropriate for grade 6.]

### **Cluster 1: Reading and Viewing**

### A. Process of Reading

R1A7.7

Summarize whole text by selecting and paraphrasing important and representative texts/passages, including the sequence of major events when appropriate for the genre.

[Text complexity appropriate for grade 7.]

#### R1A8.7

Read for a variety of purposes (e.g., to gain knowledge, to aid in making decisions, to receive instructions, to follow an argument, to enjoy). [Text complexity appropriate for grade 7.]

### **B.** Literature and Culture

#### R1B8.7

Apply effective strategies for analyzing and describing characters' interactions and motivations- citing thoughts, words, or actions that reveal characters' personalities; making inferences about cause/effect, internal/external conflicts and resolutions; analyzing the relationship among elements within the text-person vs. self, person vs. person, person vs. nature/society/fate; explaining how the author's message or theme is supported within the text; analyzing the author's point of view; and identifying the literary devices of metaphors, personification, and onomatopoeia to the reading and interpretation of fiction. [Text complexity appropriate for grade 7.]

#### R1B9.7

Apply effective strategies for synthesizing and evaluating information within and across texts; making inferences about text, including author's message or purpose (e.g., to inform, to explain, to entertain, or to persuade); and forming and supporting warranted\* opinions/judgments and assertions about the text that are relevant to the reading and use of narrative nonfiction. [Text length and complexity appropriate for grade 7.]

\* defensible, viable

#### **D.** Informational Texts

R1D4.7

Identify the informational texts structures of problem/solution and cause/effect. [Text complexity appropriate for grade 7.]

### R1D5.7

Make inferences about text, including the author's purpose and/or message, by forming and supporting warranted\* opinions/judgments and assertions about the text that are relevant. [Text complexity appropriate for grade 7.]

\*defensible, viable

### **Cluster 1: Reading and Viewing**

### A. Process of Reading

R1A7.8

Summarize whole texts by selecting and summarizing important and representative passages.

[Maine GLE Reading Panel assumes the text complexity is appropriate for grade 8.]

#### R1A88

Read for a variety of purposes (e.g., to gain knowledge, to aid in making decisions, to receive instructions, to follow an argument, to enjoy).

[Maine GLE Reading Panel assumes the text complexity is appropriate for grade 8.]

### **B.** Literature and Culture

#### R1B8.8

Apply effective strategies to the reading and interpretation of fiction (e.g., science fiction, myths, mysteries, realistic and historical fiction, poems, adventure stories, and humorous tales), using texts that are appropriately sophisticated in style, point of view, and use of literary devices.

[Maine GLE Reading Panel assumes the text complexity is appropriate for grade 8.]

#### R1B9.8

Apply effective strategies to the reading and use of moderately long nonfiction texts (e.g., references sources, articles, editorials, histories, biographies, autobiographies, diaries, letters, and commentaries), which have an appropriate complexity of content and sophistication of style.

[Maine GLE Reading Panel assumes the text complexity is appropriate for grade 8.]

### **D. Informational Texts**

#### R1D4.8

Identify different ways in which informational texts are organized.

[Maine GLE Reading Panel assumes the text complexity is appropriate for grade 8.]

#### R1D5.8

Produce and support generalizations acquired from informational text.